

AMENDMENTS TO THE CLAIMS

Please cancel claims 20, 21, 25-51, and 80-111, and amend claims 19, 22, 23, 24, 71, 76, 77, and 78 as set forth below.

Claims 1-18 are CANCELED.

19. (CURRENTLY AMENDED) A method of production of an optical device comprising a first optical portion made of a first optical material and having a concavity and a second optical portion comprising a second optical material having a refractive index different from that of the first optical material, wherein the second optical portion is inserted into the concavity, the method of production comprising the steps of:

injecting the first optical material into a metallic mold formed with a projection ~~the~~ that projects out into a cavity to form the first optical portion having a concavity that reproduces the shape of the projection; and

~~a step of filling the second optical portion in the concavity of the molded first optical portion; and~~

flattening a bottom face of the second optical portion filled in the concavity,
wherein the projection of the first optical portion has a substantially rotationally
symmetric shape with respect to an optical axis, and the section of shape of the surface of the
projection is substantially an arc, and

wherein, in the flattening step, the surface of the second optical portion is
polished so that a flat plane substantially vertical with respect to the symmetry axis of the
concavity reproducing the shape of the projection is formed.

20. (CANCELED)

21. (CANCELED)

22. (CURRENTLY AMENDED) The method of production of an optical device as set forth in ~~claim 21~~ claim 19, further comprising a step of polishing the first optical portion so that a flat surface substantially parallel to the surface of the flattened second optical portion is formed.

23. (CURRENTLY AMENDED) The method of production of an optical device as set forth in claim 19, the first optical material comprises at least one of titanium oxide, tantalum oxide, gallium phosphate, gallium nitride, a compound of titanium, niobium, and oxygen, a compound of titanium, tantalum, and oxygen, or silicon nitride.

24. (CURRENTLY AMENDED) The method of production of an optical device as set forth in claim 19, the second optical material comprises at least one of titanium oxide, tantalum oxide, gallium phosphate, gallium nitride, a compound of titanium, niobium, and oxygen, a compound of titanium, tantalum, and oxygen, or silicon nitride.

Claims 25-70 are CANCELED.

71. (CURRENTLY AMENDED) A method for production of an optical device having a convex lens and a first optical portion closely contacting the convex curved face of this convex lens, comprising the steps of:

molding a first optical portion formed with a concavity by using a metallic mold formed with a projection projecting out into a cavity to reproduce the shape of the projection in the first optical portion;

filling an optical material in the concavity of the molded first optical portion to form the convex lens;

flattening ~~the surface~~ a bottom face of the optical material filled in the concavity to form the convex lens; and

forming a hole so that part of the convex curved face of the convex lens that ~~closely contacting~~ contacts the concavity of the first optical portion ~~in the convex lens is exposed in the first optical portion.~~

72. (PREVIOUSLY PRESENTED) The method of production of an optical device as set forth in claim 71, further comprising a step of polishing the first optical portion so that a flat surface parallel or substantially parallel with respect to the surface of the flattened optical material is formed.

73. (PREVIOUSLY PRESENTED) The method of production of an optical device as set forth in claim 72, wherein the step of forming the hole in the first optical portion further comprises the steps of:

forming a resist film having a window on the flat surface of the first optical portion,

forming a hole corresponding to the window in the first optical portion by etching, and

removing the resist film from the first optical portion.

74. (PREVIOUSLY PRESENTED) The method of production of an optical device as set forth in claim 73, wherein the window has a circular or substantially circular shape.

75 (PREVIOUSLY PRESENTED) The method of production of an optical device as set forth in claim 73, wherein

the step of filling the optical material further comprises the steps of:

forming a coating film covering the surface of the concavity of the molded first optical portion and

filling an optical material in the concavity formed with the coating film,

and

wherein the step of forming the hole in the first optical portion further comprises the steps of:

forming a resist film having a window on the flat surface of the first optical portion,

forming a hole that reaches the coating film from the window in the first optical portion by etching,

removing the resist film from the first optical portion formed with the hole, and removing a portion of the coating film that is exposed in the hole.

76. (CURRENTLY AMENDED) The method of production of an optical device as set forth in ~~claim 77~~claim 73, wherein the window has a circular or substantially circular shape.

77. (CURRENTLY AMENDED) The method of production of an optical device as set forth in claim 72, wherein

the projection has a rotationally symmetric or substantially rotationally symmetric shape, and

in the step of forming the convex lens, ~~[[the]]~~ a surface of the optical material is polished so that a flat surface vertical or substantially vertical with respect to the symmetry axis of the concavity with the shape of the projection transferred thereto is formed.

78. (CURRENTLY AMENDED) The method of production of an optical device as set forth in claim 77, wherein the shape of the surface of the projection when the projection is cut along its symmetry axis is an arc or substantially an arc.

79. (PREVIOUSLY PRESENTED) The method of production of an optical device as set forth in claim 71, wherein the optical material is titanium oxide, tantalum oxide, niobium oxide, gallium phosphate, gallium nitride, a compound of titanium, niobium, and oxygen, a compound of titanium, tantalum, and oxygen, or silicon nitride.

Claims 80-114 are CANCELED.